SEQUENCE LISTING

<110> Omori, Satoshi

<120> Method and apparatus for recording information on sequence of biological compounds

<130> 2002F03

<140>

<141>

<150> JP 2001-120335

<151> 2001-04-18

<150> JP 2001-368002

<151> 2001-11-30

<160> 3

<170> Patent In Ver. 2.1

<210> 1

<211> 2048

<212> DNA

<213> Escherichia coli

<400> 1

agcttttcat tctgactgca acgggcaata tgtctctgtg tggattaaaa aaagagtgtc 60 tgatagcagc ttctgaactg gttacctgcc gtgagtaaat taaaatttta ttgacttagg 120 tcactaaata ctttaaccaa tataggcata gcgcacagac agataaaaat tacagagtac 180 acaacatcca tgaaacgcat tagcaccacc attaccacca ccatcaccat taccacaggt 240 aacggtgcgg gctgacgcgt acaggaaaca cagaaaaaag cccgcacctg acagtgcggg 300 ctttttttt cgaccaaagg taacgaggta acaaccatgc gagtgttgaa gttcggcggt 360 acatcagtgg caaatgcaga acgttttctg cgtgttgccg atattctgga aagcaatgcc 420 aggcaggggc aggtggccac cgtcctctct gccccgcca aaatcaccaa ccacctggtg 480 gcgatgattg aaaaaaccat tagcggccag gatgctttac ccaatatcag cgatgccgaa 540 cgtatttttg ccgaactttt gacgggactc gccgccgccc agccggggtt cccgctggcg 600 caattgaaaa ctttcgtcga tcaggaattt gcccaaataa aacatgtcct gcatggcatt 660 agtitigtigg ggcagtgccc ggatagcatc aacgctgcgc tgattigccg tggcgagaaa 720 atgtcgatcg ccattatggc cggcgtatta gaagcgcgcg gtcacaacgt tactgttatc 780 gatccggtcg aaaaactgct ggcagtgggg cattacctcg aatctaccgt cgatattgct 840. gagtccaccc gccgtattgc ggcaagccgc attccggctg atcacatggt gctgatggca 900 ggtttcaccg ccggtaatga aaaaggcgaa ctggtggtgc ttggacgcaa cggttccgac 960 tactctgctg cggtgctggc tgcctgttta cgcgccgatt gttgcgagat ttggacggac 1020 gttgacgggg tctatacctg cgacccgcgt caggtgcccg atgcgaggtt gttgaagtcg 1080 atgicetace aggaagegat ggagetitee tactieggeg etaaagtiet teaceeege 1140 accattacce ceategeeca gttecagate cettgeetga ttaaaaatae eggaaateet 1200 caagcaccag gtacgctcat tggtgccagc cgtgatgaag acgaattacc ggtcaagggc 1260 atttccaatc tgaataacat ggcaatgttc agcgtttctg gtccggggat gaaagggatg 1320 gtcggcatgg cggcgcgt ctttgcagcg atgtcacgcg cccgtatttc cgtggtgctg 1380 attacgcaat catcttccga atacagcatc agtttctgcg ttccacaaag cgactgtgtg 1440 cgagctgaac gggcaatgca ggaagagttc tacctggaac tgaaagaagg cttactggag 1500 ccgctggcag tgacggaacg gctggccatt atctcggtgg taggtgatgg tatgcgcacc 1560 ttgcgtggga tctcggcgaa attctttgcc gcactggccc gcgccaatat caacattgtc 1620 gccattgctc agggatcttc tgaacgctca atctctgtcg tggtaaataa cgatgatgcg 1680 accactggcg tgcgcgttac tcatcagatg ctgttcaata ccgatcaggt tatcgaagtg 1740

tttgtgattg gcgtcggtgg cgttggcggt gcgctgctgg agcaactgaa gcgtcagcaa 1800 agctggctga agaataaaca tatcgactta cgtgtctgcg gtgttgccaa ctcgaaggct 1860 ctgctcacca atgtacatgg ccttaatctg gaaaactggc aggaagaact ggcgcaagcc 1920 aaagagccgt ttaatctcgg gcgcttaatt cgcctcgtga aagaatatca tctgctgaac 1980 ccggtcattg ttgactgcac ttccagccag gcagtggcgg atcaatatgc cgacttcctg 2040 cgcgaagg

<210> 2

<211> 2048

<212> DNA

<213> Escherichia coli

<400> 2

agcttttcat tctgactgca acggcaata tgtctctgtg tggattaaaa aaagagtgtc 60 tgatagcagc ttctgaactg gttacctgcc gtgagtaaat taaaatttta ttgacttagg 120 tcactaaata ctttaaccaa tataggcata gcgcacagac agataaaaat tacagagtac 180 acaacatcca tgaaacgcat tagcaccacc attaccacca ccatcaccat taccacaggt 240 aacggtgcgg gctgacgcgt acagggaaaca cagaaaaaaag cccgcacctg acagtgcggg 300 ctttttttt cgaccaaagg taacgaggta acaaccatgc gagtgttgaa gttcggcggt 360 acatcagtgg caaatgcaga acgtttctg cgtgttgccg atattctgga aagcaatgcc 420 aggcagggg caaaaacacat tagcggccag gatgcttac ccaataccaa ccacctggtg 480 gcgatgattg aaaaaaccat tagcggccag gatgcttac ccaataccaa cgatgccgaa 540 cgtatttttg ccgaactttt gacggccag gatgcttac ccaatacaa ccacctggtg 600 caattgaaaa ctttcgtca tcaggaatt gcccacaataa aacatgcct gcatggcgt cccgtggcg 600 agtttgttgg ggcaagtgcc ggatagcatc aacgctgcgc tgatttgccg tagcgagaaa 720 atgtcgatcg ccattatggc cggcgtatta gaagcgcgcg gtcacaacgt tactgttatc 780 gatccggtcg aaaaactgct ggcagtgggg cattacctcg aatcacagt gctgatggca 900

ggtttcaccg ccggtaatga aaaaggcgaa ctggtggtgc ttggacgcaa cggttccgac 960 tactctgctg cggtgctggc tgcctgttta cgcgccgatt gttgcgagat ttggacatta 1020 tggcggccaa cttatacctg cgacccgcgt caggtgcccg atgcgaggtt gttgaagtcg 1080 atgtcctacc aggaagcgat ggagctttcc tacttcggcg ctaaagttct tcacccccgc 1140 accattacce ceategeeca giteeagate cettgeetga tiaaaaatae eggaaateet 1200 caagcaccag gtacgctcat tggtgccagc cgtgatgaag acgaattacc ggtcaagggc 1260 atticcaate tgaataacat ggcaatgite agegtitetg gieeggggat gaaagggatg 1320 gtcggcatgg cggcgcgtt ctttgcagcg atgtcacgcg cccgtatttc cgtggtgctg 1380 attacgcaat catcttccga atacagcatc agtttctgcg ttccacaaag cgactgtgtg 1440 cgagctgaac gggcaatgca ggaagagttc tacctggaac tgaaagaagg cttactggag 1500 ccgctggcag tgacggaacg gctggccatt atctcggtgg taggtgatgg tatgcgcacc 1560 ttgcgtggga tctcggcgaa attctttgcc gcactggccc gcgccaatat caacattgtc 1620 gccattgctc agggatcttc tgaacgctca atctctgtcg tggtaaataa cgatgatgcg 1680 accactggcg tgcgcgttac tcatcagatg ctgttcaata ccgatcaggt tatcgaagtg 1740 tttgtgattg gcgtcggtgg cgttggcggt gcgctgctgg agcaactgaa gcgtcagcaa 1800 agctggctga agaataaaca tatcgactta cgtgtctgcg gtgttgccaa ctcgaaggct 1860 ctgctcacca atgtacatgg ccttaatctg gaaaactggc aggaagaact ggcgcaagcc 1920 aaagagccgt ttaatctcgg gcgcttaatt cgcctcgtga aagaatatca tctgctgaac 1980 ccggtcattg ttgactgcac ttccagccag gcagtggcgg atcaatatgc cgacttcctg 2040 cgcgaagg 2048

<210> 3

<211> 820

<212> PRT

<213> Escherichia coli

<400> 3

Met Arg Val Leu Lys Phe Gly Gly Thr Ser Val Ala Asn Ala Glu Arg

1				5					10					15	
Phe	Leu	Arg	Va l 20	Ala	Asp	Ile	Leu	Glu 25	Ser	Asn	Ala	Arg	Gln 30	Gly	Gln
Val	Ala	Thr 35	Val	Leu	Ser	Ala	Pro 40	Ala	Lys	Ile	Thr	Asn 45	His	Leu	Val
Ala	Met 50	Ile	Glu	Lys	Thr	Ile 55	Ser	Gly	Gln	Asp	Ala 60	Leu	Pro	Asn	Ile
Ser 65	Asp	Ala	Glu	Arg	Ile 70	Phe	Ala	Glu	Leu	Leu 75	Thr	Gly	Leu	Ala	Ala 80
Ala	Gln	Pro	Gly	Phe 85	Pro	Leu	Ala	Gln	Leu 90	Lys	Thr	Phe	Val	Asp 95	Gln
Glu	Phe	Ala	Gln 100	Ile	Lys	His	Val	Leu 105	His	Gly	Ile	Ser	Leu 110	Leu	Gly
Gln	Cys	Pro 115	Asp	Ser	Ile	Asn	Ala 120	Ala	Leu	Ile	Cys	Arg 125	Gly	Glu	Lys
Met	Ser 130	He	Ala	Ile	Met	Ala 135	Gly	Val	Leu	Glu	Ala 140	Arg	Gly	His	Asn
Val 145	Thr	Val	He	Asp	Pro 150	Val	Glu	Lys	Leu	Leu 155	Ala	Val	Gly	His	Tyr 160

Leu	Glu	Ser	Thr	Val 165	Asp	Ile	Ala	Glu	Ser 170	Thr	Arg	Arg	Ile	Ala 175	Ala
Ser	Arg	Ile	Pro 180	Ala	Asp	His	Met	Val 185	Leu	Met	Ala	Gly	Phe 190	Thr	Ala
Gly	Asn	Glu 195	Lys	Gly	Glu	Leu	Val 200	Val	Leu	Gly	Arg	Asn 205	Gly	Ser	Asp
Tyr	Ser 210	Ala	Ala	Val	Leu	Ala 215	Ala	Cys	Leu	Arg	Ala 220	Asp	Cys	Cys	Glu
Ile 225	Trp	Thr	Asp	Val	Asp 230	Gly	Val	Tyr	Thr	Cys 235	Asp	Pro	Arg	Gln	Val 240
Pro	Asp	Ala	Arg	Leu 245	Leu	Lys	Ser	Met	Ser 250	Tyr	Gln	Glu	Ala	Me t 255	Glu
Leu	Ser	Tyr	Phe 260	Gly	Ala	Lys	Val	Leu 265	His	Pro	Arg	Thr	Ile 270	Thr	Pro
Ile	Ala	Gln 275	Phe	Gln	Ile	Pro	Cys 280	Leu	Ile	Lys	Asn	Thr 285	Gly	Asn	Pro
Gln	Ala 290	Pro	Gly	Thr	Leu	Ile 295	Gly	Ala	Ser	Arg	Asp 300	Glu	Asp	Glu	Leu
Pro 305	Val	Lys	Gly	Ile	Ser 310	Asn	Leu	Asn	Asn	Me t 315	Ala	Met	Phe	Ser	Va 1 320

Ser	Gly	Pro	Gly	Met	Lys	Gly	Met	Val	Gly	Met	Ala	Ala	Arg	Val	Phe
				325					330					335	

- Ala Ala Met Ser Arg Ala Arg Ile Ser Val Val Leu Ile Thr Gln Ser 340 345 350
- Ser Ser Glu Tyr Ser Ile Ser Phe Cys Val Pro Gln Ser Asp Cys Val 355 360 365
- Arg Ala Glu Arg Ala Met Gin Glu Glu Phe Tyr Leu Glu Leu Lys Glu 370 375 380
- Gly Leu Leu Glu Pro Leu Ala Val Thr Glu Arg Leu Ala Ile Ile Ser 385 390 395 400
- Val Val Gly Asp Gly Met Arg Thr Leu Arg Gly Ile Ser Ala Lys Phe
 405 410 415
- Phe Ala Ala Leu Ala Arg Ala Asn Ile Asn Ile Val Ala Ile Ala Gln
 420 425 430
- Gly Ser Ser Glu Arg Ser Ile Ser Val Val Val Asn Asn Asp Asp Ala 435 440 445
- Thr Thr Gly Val Arg Val Thr His Gln Met Leu Phe Asn Thr Asp Gln
 450
 455
 460
- Val Ile Glu Val Phe Val Ile Gly Val Gly Gly Val Gly Gly Ala Leu

465					470					475					480
Leu	Glu	Gln	Leu	Lys 485	Arg	Gln	Gln	Ser	Trp 490	Leu	Lys	Asn	Lys	His 495	Ile
Asp	Leu	Arg	Val 500	Cys	Gly	Val	Ala	Asn 505	Ser	Lys	Ala	Leu	Leu 510	Thr	Asn
Val	His	Gly 515	Leu	Asn	Leu	Glu	Asn 520	Trp	Gln	Glu	Glu	Leu 525	Ala	Gln	Ala
Lys	G1u 530	Pro	Phe	Asn	Leu	Gly 535	Arg	Leu	Ile	Arg	Leu 540	Val	Lys	Glu	Tyr
His 545	Leu	Leu	Asn	Pro	Val 550	Ile	Val	Asp	Cys	Thr 555	Ser	Ser	Gln	Ala	Val 560
Ala	Asp	Gln	Tyr	Ala 565	Asp	Phe	Leu	Arg	G1u 570	Gly	Phe	His	Val	Val 575	Thr
Pro	Asn	Lys	Lys 580	Ala	Asn	Thr	Ser	Ser 585	Met	Asp	Tyr	Tyr	His 590	Gln	Leu
Arg	Tyr	Ala 595	Ala	Glu	Lys	Ser	Arg 600	Arg	Lys	Phe	Leu	Tyr 605	Asp	Thr	Asn
Val	Gly 610	Ala	Gly	Leu	Pro	Val 615	Ile	Glu	Asn	Leu	Gln 620	Asn	Leu	Leu	Asn

Ala Gly Asp Glu Leu Met Lys Phe Ser Gly Ile Leu Ser Gly Ser Leu Ser Tyr Ile Phe Gly Lys Leu Asp Glu Gly Met Ser Phe Ser Glu Ala Thr Thr Leu Ala Arg Glu Met Gly Tyr Thr Glu Pro Asp Pro Arg Asp Asp Leu Ser Gly Met Asp Val Ala Arg Lys Leu Leu Ile Leu Ala Arg Glu Thr Gly Arg Glu Leu Glu Leu Ala Asp Ile Glu Ile Glu Pro Val Leu Pro Ala Glu Phe Asn Ala Glu Gly Asp Val Ala Ala Phe Met Ala Asn Leu Ser Gln Leu Asp Asp Leu Phe Ala Ala Arg Val Ala Lys Ala Arg Asp Glu Gly Lys Val Leu Arg Tyr Val Gly Asn Ile Asp Glu Asp Gly Val Cys Arg Val Lys Ile Ala Glu Val Asp Gly Asn Asp Pro Leu Phe Lys Val Lys Asn Gly Glu Asn Ala Leu Ala Phe Tyr Ser His Tyr

Tyr Gln Pro Leu Pro Leu Val Leu Arg Gly Tyr Gly Ala Gly Asn Asp 785 790 795 800

Val Thr Ala Ala Gly Val Phe Ala Asp Leu Leu Arg Thr Leu Ser Trp 805 810 815

Lys Leu Gly Val

820